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The President then appointed, under his hand and seal, the following Vice-Presidents :

His Grace the Archbishop of Dublin ; Rev. Franc Sadleir, D. D., Provost of Trinity College ; Rev. Charles W. Wall, D. D.; John Anster, LL. D.

The following paper was communicated by Dr. Aldridge:

"In the year 1846, it was stated by Dr. Budge that when the whites of eggs were treated with alcohol, and a solution of potassa and some drops of a solution of sulphate of copper were added to the filtered spirituous liquid, red oxide of copper became deposited upon the application of heat; and from this behaviour he inferred the probability that sugar was a constant constituent of the white of eggs. Baron Liebig, however, considered that this reaction only showed that some deoxidizing substance was removed by the alcohol, and that, before the existence of sugar in the white of eggs could be admitted as a fact in science, it would be necessary that this substance should be extracted and examined.

" I have now to announce the discovery and isolation by me of sugar, identical in properties with that obtained from grapes, in the white of the egg of the domestic hen. It may be obtained by beating the unboiled whites of eggs into a smooth pulp, with an equal bulk of rectified spirits of wine, specific gravity 0·850, and then applying heat; when, as the mixture is approaching the boiling point of alcohol, it will suddenly separate into two portions, the coagulated albumen and the spirit, now become of a straw colour. By straining and strongly pressing the albumen, the greater part of the spirituous liquid can be obtained distinct; and this, being evaporated over a water bath, will yield a succession of pellicles, transparent and gelatinous in appearance, which, according as they form, will have to be removed and preserved. The colour of these pellicles, at first pale yellowish, becomes deeper as the evaporation proceeds, and towards the end becomes reddish brown. When one of the pellicles is immersed for a short time in strong nitric acid, and then transferred into water of ammonia, it changes to a deep orange colour, a character in which it agrees with albumen, fibrine, and caseine, although it differs from those substances in having been obtained by evaporation from a spirituous solution, which solution is not precipitable by acids. It is to be remarked that the spirituous solution is strongly alkaline. The various pellicles obtained by the evaporation of the spirituous liquid are subsequently to be triturated with rectified spirit, then boiled and filtered. The filtered liquid is colourless, and upon being evaporated to the consistence of a thick syrup, and allowed to cool, deposits whitish grains on the sides and bottom of the vessel. These grains, and the syrup from which they deposit, have a taste, at first intensely sweet, but rapidly followed by a saline after-taste. A little of the syrup, when boiled with an equal bulk of potash water, acquires immediately a deep claret colour. Some of the syrup having about half its bulk of potash water added to it, and then a little hydrated oxide of copper, the latter dissolves with the production of a fine red colour; but after being exposed for some time to the air, the solution decomposes, and a precipitation of red oxide of copper takes place. A little of the syrup being added to water of potash, in which hydrated oxide of copper was diffused by the previous addition of a drop or two of solution of sulphate of copper, the precipitate immediately redissolves, and upon the application of heat red oxide of copper becomes precipitated. From these properties and tests, I consider that we are justified in concluding that, by the process indicated, grape sugar, contaminated with certain salts, is capable of being extracted from the whites of eggs.

" The usual tests for grape sugar are capable of affording very marked indications with the white of egg, although somewhat modified, probably from the presence of other constituents present in the organ. Thus, Moore's test causes the production of a deep amber colour, as well marked as with the urine in most cases of diabetes mellitus. Capezzuoli's test affords a beautiful pink solution, which gradually decomposes, and throws down a *brown* precipitate. Tromsdorf's test furnishes a deep *red* solution, which precipitates *brown* upon being boiled. The cause of these reactions is capable of being removed from the albumen of the white of egg, by the agency of alcohol, and will then become concentrated in the alcoholic extract.

" I was desirous of ascertaining whether the presence of sugar in the white of egg might not be due to a commencing putrefaction of the albumen; but I have found as manifest indications of sugar in a fresh laid egg as in one that had been kept for several days."

April 9th, 1849.

REV. HUMPHREY LLOYD, D. D., President, in the Chair.

Daniel Brady, M. D.; Benjamin Lee Guinness, Esq.; Henry Kennedy, M. B.; and Hon. Thomas Vesey, M. P.; were elected members of the Academy.

Mr. Donovan read a paper on the Preparation of Phosphorus.

The early processes of Hellot, Dolfuss, Henckel, Margraaf, and others, were first commented on, and their disgusting, troublesome, and inefficient nature pointed out.

At this time the price of phosphorus was enormous. Mr. Boyle induced a chemist to adopt a new method, which enabled him to produce phosphorus so abundantly, that its price fell to six guineas per ounce. At present it may be purchased for half as many shillings.

But when Gahn discovered that the earthy part of bone consists of phosphate of lime, a more abundant source of phosphorus was made known to chemists. From two pounds of bone ashes, Wiegleb obtained ten drachms and a half of phosphorus; Dolfuss, rather less than five drachms; and Pelletier sometimes so much as three ounces.

Observations were made on the practical difficulties, defects, and great trouble of the bone-ash process; and remedies were pointed out. It was shown that bones are procurable in various commercial states, viz., in coarse powder, for the purposes of agriculture; burned to blackness in the process for